

SEQUENCE LISTING

<110> Bandman, Olga
 Tang, Y. Tom
 Hillman, Jennifer L.
 Yue, Henry
 Guegler, Karl J.
 Corley, Neil C.
 Gorgone, Gina
 Azimzai, Yalda
 Lu, Aina

<120> Protein Kinase Homologs

<130> PF-0614 US

<140> To Be Assigned

<141> Herewith

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<213> Homo sapiens

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			20						25						
Ala	Glu	Asp	Ser	Gly	Leu	Arg	Leu	Asp	Gly	Gly	Ser	Gly	Ser	Thr	45
			35						40						
Ser	Ser	Ser	Gly	Cys	His	Pro	Gly	Gly	Ala	Arg	Ala	Gly	Pro	Ser	60
			50						55						
Pro	Ala	Ser	Ser	Ser	Pro	Ala	Pro	Gly	Gly	Gly	Arg	Ser	Leu	Ser	75
			65						70						
Ala	Gly	Ser	Gln	Thr	Ser	Gly	Phe	Ser	Gly	Ser	Leu	Phe	Ser	Pro	90
			80						85						
Ala	Ser	Cys	Ser	Ile	Leu	Ser	Gly	Ser	Ser	Asn	Gln	Arg	Glu	Thr	105
			95						100						
Gly	Gly	Leu	Leu	Ser	Pro	Ser	Thr	Pro	Phe	Gly	Ala	Ser	Asn	Leu	120
			110						115						
Leu	Val	Asn	Pro	Leu	Glu	Pro	Gln	Asn	Ala	Asp	Lys	Ile	Lys	Ile	135
			125						130						
Lys	Ile	Ala	Asp	Leu	Gly	Asn	Ala	Cys	Trp	Val	His	Lys	His	Phe	150
			140						145						
Thr	Glu	Asp	Ile	Gln	Thr	Arg	Gln	Tyr	Arg	Ala	Val	Glu	Val	Leu	165
			155						160						
Ile	Gly	Ala	Glu	Tyr	Gly	Pro	Pro	Ala	Asp	Ile	Trp	Ser	Thr	Ala	180
			170						175						
Cys	Met	Ala	Phe	Glu	Leu	Ala	Thr	Gly	Asp	Tyr	Leu	Phe	Glu	Pro	195
			185						190						
His	Ser	Gly	Glu	Asp	Tyr	Ser	Arg	Asp	Glu	Asp	His	Ile	Ala	His	210
			200						205						
Ile	Val	Glu	Leu	Leu	Gly	Asp	Ile	Pro	Pro	Ala	Phe	Ala	Leu	Ser	225
			215						220						
Gly	Arg	Tyr	Ser	Arg	Glu	Phe	Phe	Asn	Arg	Arg	Gly	Glu	Leu	Arg	240
			230						235						
His	Ile	His	Asn	Leu	Lys	His	Trp	Gly	Leu	Tyr	Glu	Val	Leu	Met	255
			245						250						

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Glu	Lys	Tyr	Glu	Trp	Pro	Leu	Glu	Gln	Ala	Thr	Gln	Phe	Ser	Ala
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Phe	Leu	Leu	Pro	Met	Asn	Glu	Tyr	Ile	Pro	Glu	Lys	Arg	Ala	Ser
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Ala	Arg	Asp	Cys	Leu	Gln	His	Pro	Trp	Leu	Gln	Pro			
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				20					25					30
Ser	Thr	Leu	Tyr	Lys	Gly	Glu	Tyr	His	Arg	Ala	Pro	Val	Ala	Ile
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Lys	Val	Phe	Lys	Lys	Leu	Gln	Ala	Gly	Ser	Ile	Ala	Ile	Val	Arg
				50					55					60
Gln	Thr	Phe	Asn	Lys	Glu	Ile	Lys	Thr	Met	Lys	Lys	Phe	Glu	Ser
				65					70					75
Pro	Asn	Ile	Leu	Arg	Ile	Phe	Gly	Ile	Cys	Ile	Asp	Glu	Thr	Val
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Thr	Pro	Pro	Gln	Phe	Ser	Ile	Val	Met	Glu	Tyr	Cys	Glu	Leu	Gly
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Thr	Leu	Arg	Glu	Leu	Leu	Asp	Arg	Glu	Lys	Asp	Leu	Thr	Leu	Gly
				110					115					120
Lys	Arg	Met	Val	Leu	Val	Leu	Gly	Ala	Ala	Arg	Gly	Leu	Tyr	Arg
				125					130					135
Leu	His	His	Ser	Gly	Ala	Pro	Glu	Leu	His	Gly	Lys	Ile	Arg	Ser
				140					145					150
Ser	Asn	Phe	Leu	Val	Thr	Gln	Gly	Tyr	Gln	Val	Lys	Leu	Ala	Gly
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Phe	Glu	Leu	Arg	Lys	Thr	Gln	Thr	Ser	Met	Ser	Leu	Gly	Thr	Thr
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Arg	Glu	Lys	Thr	Asp	Arg	Val	Lys	Ser	Thr	Ala	Tyr	Leu	Ser	Pro
				185					190					195
Gln	Glu	Leu	Glu	Asp	Val	Phe	Tyr	Gln	Tyr	Asp	Val	Lys	Ser	Glu
				200					205					210
Ile	Tyr	Ser	Phe	Gly	Ile	Val	Leu	Trp	Glu	Ile	Ala	Thr	Gly	Asp
				215					220					225
Ile	Pro	Phe	Gln	Gly	Cys	Asn	Ser	Glu	Lys	Ile	Arg	Lys	Leu	Val
				230					235					240
Ala	Val	Lys	Arg	Gln	Gln	Glu	Pro	Leu	Gly	Glu	Asp	Cys	Pro	Ser
				245					250					255
Glu	Leu	Arg	Glu	Ile	Ile	Asp	Glu	Cys	Arg	Ala	His	Asp	Pro	Ser
				260					265					270
Val	Arg	Pro	Ser	Val	Asp	Glu	Ile	Leu	Lys	Lys	Leu	Ser	Thr	Phe
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Ser	Lys													

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<220> -

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35 40 45
Asp Pro Leu Val Thr Tyr Glu Gly Ser Asn Pro Pro Ala Ser Pro
50 55 60
Leu Gln Asp Asn Leu Val Ile Ala Leu His Ser Tyr Glu Pro Ser
65 70 75
His Asp Gly Asp Leu Gly Phe Glu Lys Gly Glu Gln Leu Arg Ile
80 85 90
Leu Glu Gln Ser Gly Glu Trp Trp Lys Ala Gln Ser Leu Thr Thr
95 100 105
Gly Gln Glu Gly Phe Ile Pro Phe Asn Phe Val Ala Lys Ala Asn
110 115 120
Ser Leu Glu Pro Glu Ala Asn Leu Met Lys Gln Leu Gln His Gln
125 130 135
Arg Leu Val Arg Leu Tyr Ala Val Val Thr Gln Glu Pro Ile Tyr
140 145 150
Ile Ile Thr Glu Tyr Met Glu Asn Gly Ser Leu Val Asp Phe Leu
155 160 165
Lys Thr Pro Ser Gly Ile Lys Leu Thr Ile Asn Lys Leu Leu Asp
170 175 180
Met Ala Ala Gln Ile Ala Glu Gly Met Ala Phe Ile Glu Glu Arg
185 190 195
Asn Tyr Ile His Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Ser
200 205 210
Asp Thr Leu Ser Cys Lys Ile Ala Asp Phe Gly Leu Ala Arg Leu
215 220 225
Ile Glu Asp Asn Glu Tyr Thr Ala Arg Glu Gly Ala Lys Phe Pro
230 235 240
Ile Lys Trp Thr Ala Pro Glu Ala Ile Asn Tyr Gly Thr Phe Thr
245 250 255
Ile Lys Ser Asp Val Trp Ser Phe Gly Ile Leu Leu Thr Glu Ile
260 265 270
Val Thr His Gly Arg Ile Pro Tyr Pro Gly Met Thr Asn Pro Glu
275 280 285

Val Ile Gln Asn Leu Glu Arg Gly Tyr Arg Met Val Arg Pro Asp
290 295 300
Asn Cys Pro Glu Glu Leu Tyr Gln Leu Met Arg Leu Cys Trp Lys
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Glu Arg Pro Glu Asp Arg Pro Thr Phe Asp Tyr Leu Arg Ser Val
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Leu Glu Asp Phe Phe Thr Ala Thr Glu Gly Gln Tyr Gln Pro Gln
335 340 345
Pro

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				20					25					30	
Leu	Arg	Glu	Ile	Gly	His	Gly	Ser	Phe	Gly	Ala	Val	Tyr	Phe	Ala	
				35					40					45	
Arg	Asp	Val	Arg	Asn	Ser	Glu	Val	Val	Ala	Ile	Lys	Lys	Met	Ser	
				50					55					60	
Tyr	Ser	Gly	Lys	Gln	Ser	Asn	Glu	Lys	Trp	Gln	Asp	Ile	Ile	Lys	
				65					70					75	
Glu	Val	Arg	Arg	Arg	Arg	Arg	Val	Gly	Arg	Glu	Asp	Glu	Glu	Arg	
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				20					25					30	
Arg	Tyr	Lys	Pro	Thr	Gly	Glu	Tyr	Val	Thr	Val	Arg	Arg	Ile	Asn	
				35					40					45	
Leu	Glu	Ala	Cys	Ser	Asn	Glu	Met	Val	Thr	Phe	Leu	Gln	Gly	Glu	
				50					55					60	
Leu	His	Val	Ser	Lys	Leu	Phe	Asn	His	Pro	Asn	Ile	Val	Pro	Tyr	
				65					70					75	
Arg	Ala	Thr	Phe	Ile	Ala	Asp	Asn	Glu	Leu	Trp	Val	Val	Thr	Ser	
				80					85					90	
Phe	Met	Ala	Tyr	Gly	Ser	Ala	Lys	Asp	Leu	Ile	Cys	Thr	His	Phe	
				95					100					105	
Met	Asp	Gly	Met	Asn	Glu	Leu	Ala	Ile	Ala	Tyr	Ile	Leu	Gln	Gly	
				110					115					120	
Val	Leu	Lys	Ala	Leu	Asp	Tyr	Ile	His	His	Met	Gly	Tyr	Val	His	
				125					130					135	
Arg	Ser	Val	Lys	Ala	Ser	His	Ile	Leu	Ile	Ser	Val	Asp	Gly	Lys	
				140					145					150	
Val	Tyr	Leu	Ser	Gly	Leu	Arg	Thr	Thr	Leu	Ser	Met	Ile	Ser	His	
				155					160					165	
Gly	Gln	Arg	Gln	Arg	Val	Val	His	Asp	Phe	Pro	Lys	Tyr	Ser	Val	
				170					175					180	
Lys	Val	Leu	Pro	Trp	Leu	Ser	Pro	Glu	Val	Leu	Gln	Gln	Asn	Leu	
				185					190					195	
Gln	Gly	Tyr	Asp	Ala	Lys	Ser	Asp	Ile	Tyr	Ser	Val	Gly	Ile	Thr	
				200					205					210	
Ala	Cys	Glu	Leu	Ala	Asn	Gly	His	Val	Pro	Phe	Lys	Asp	Met	Pro	
				215					220					225	
Ala	Thr	Gln	Met	Leu	Leu	Glu	Lys	Leu	Asn	Gly	Thr	Val	Pro	Cys	
				230					235					240	
Leu	Leu	Asp	Thr	Ser	Thr	Ile	Pro	Ala	Glu	Glu	Leu	Thr	Met	Ser	
				245					250					255	
Pro	Ser	Arg	Ser	Val	Ala	Asn	Ser	Gly	Leu	Ser	Asp	Ser	Leu	Thr	
				260					265					270	
Thr	Ser	Thr	Pro	Arg	Pro	Ser	Asn	Gly	Asp	Ser	Pro	Ser	His	Pro	
				275					280					285	
Tyr	His	Arg	Thr	Phe	Ser	Pro	His	Phe	His	His	Phe	Val	Glu	Gln	
				290					295					300	
Cys	Leu	Gln	Arg	Asn	Pro	Asp	Ala	Arg	Tyr	Pro	Cys	Trp	Pro	Gly	
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 Val Ile Lys Glu Ile Asn Ile Ser Arg Met Ser Ser Lys Glu Arg
 35 40 45
 Glu Glu Ser Arg Arg Glu Val Ala Val Leu Ala Asn Met Lys His
 50 55 60
 Pro Asn Ile Val Gln Tyr Arg Glu Ser Phe Glu Gly Ile Leu Asp
 65 70 75
 Trp Phe Val Gln Ile Cys Leu Ala Leu Lys His Val His Asp Arg
 80 85 90
 Lys Ile Leu His Arg Asp Ile Lys Ser Gln Asn Ile Phe Leu Thr
 95 100 105
 Lys Asp Gly Thr Val Gln Leu Gly Asp Phe Gly Ile Ala Arg Val
 110 115 120
 Leu Asn Ser Thr Val Glu Leu Ala Arg Thr Cys Ile Gly Thr Pro
 125 130 135
 Tyr Tyr Leu Ser Pro Glu Ile Cys Glu Asn Lys Pro Tyr Asn Asn
 140 145 150
 Lys Ser Asp Ile Trp Ala Leu Gly Cys Val Leu Tyr Glu Leu Cys
 155 160 165
 Thr Leu Lys His Ala Phe Glu Ala Gly Ser Met Lys Asn Leu Val
 170 175 180
 Leu Lys Ile Ile Ser Gly Ser Phe Pro Pro Val Ser Leu His Tyr
 185 190 195
 Ser Tyr Asp Leu Arg Ser Leu Val Ser Gln Leu Phe Lys Arg Asn
 200 205 210
 Pro Arg Asp Arg Pro Ser Val Asn Ser Ile Leu Glu Lys Gly Phe
 215 220 225
 Ile Ala Lys Arg Ile Glu Lys Phe Leu Ser Pro Gln Leu Ile Ala
 230 235 240
 Glu Glu Phe Cys Leu Lys Thr Phe Ser Lys Phe Gly Ser Gln Pro
 245 250 255
 Ile Pro Ala Lys Arg Pro Ala Ser Gly Gln Asn Ser Ile Ser Val
 260 265 270
 Met Pro Ala Gln Lys Ile Thr Lys Pro Ala Ala Lys Tyr Gly Ile
 275 280 285
 Pro Leu Ala Tyr Lys Lys Tyr Gly Asp Lys Lys Leu His Glu Lys
 290 295 300
 Lys Pro Leu Gln Lys His Lys Gln Ala His Gln Thr Pro Glu Lys
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 Arg Val Asn Thr Gly Glu Glu Arg Arg Lys Ile Ser Glu Glu Ala
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Phe	Lys	Phe	Cys	Pro	Tyr	Cys	Gly	Asn	Ser	Leu	Pro	Val	Glu	Glu	
				20					25					30	
His	Val	Gly	Ser	Gln	Thr	Phe	Val	Asn	Pro	His	Val	Ser	Ser	Phe	
				35					40					45	
Gln	Gly	Ser	Gly	Ser	Arg	Pro	Pro	Thr	Pro	Lys	Ser	Ser	Pro	Gln	
				50					55					60	
Lys	Thr	Arg	Lys	Ser	Pro	Gln	Val	Thr	Arg	Gly	Ser	Pro	Gln	Lys	
				65					70					75	
Thr	Ser	Cys	Ser	Pro	Gln	Lys	Thr	Arg	Gln	Ser	Pro	Gln	Thr	Leu	
				80					85					90	
Lys	Arg	Ser	Arg	Val	Thr	Thr	Ser	Leu	Glu	Ala	Leu	Pro	Thr	Gly	
				95					100					105	
Thr	Val	Leu	Thr	Asp	Lys	Ser	Gly	Arg	Gln	Trp	Lys	Leu	Lys	Ser	
				110					115					120	
Phe	Gln	Thr	Arg	Asp	Asn	Gln	Gly	Ile	Leu	Tyr	Glu	Ala	Ala	Pro	
				125					130					135	
Thr	Ser	Thr	Leu	Thr	Cys	Asp	Ser	Gly	Pro	Gln	Lys	Gln	Lys	Phe	
				140					145					150	
Ser	Leu	Lys	Leu	Asp	Ala	Lys	Asp	Gly	Arg	Leu	Phe	Asn	Glu	Gln	
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Asn	Phe	Phe	Gln	Arg	Ala	Ala	Lys	Pro	Leu	Gln	Val	Asn	Lys	Trp	
				170					175					180	
Lys	Lys	Leu	Tyr	Ser	Thr	Pro	Leu	Leu	Ala	Ile	Pro	Thr	Cys	Met	
				185					190					195	
Gly	Phe	Gly	Val	His	Gln	Asp	Lys	Tyr	Arg	Phe	Leu	Val	Leu	Pro	
				200					205					210	
Ser	Leu	Gly	Arg	Ser	Leu	Gln	Ser	Ala	Leu	Asp	Val	Ser	Pro	Lys	
				215					220					225	
His	Val	Leu	Ser	Glu	Arg	Ser	Val	Leu	Gln	Val	Ala	Cys	Arg	Leu	
				230					235					240	
Leu	Asp	Ala	Leu	Glu	Phe	Leu	His	Glu	Asn	Glu	Tyr	Val	His	Gly	
				245					250					255	
Asn	Val	Thr	Ala	Glu	Asn	Ile	Phe	Val	Asp	Pro	Glu	Asp	Gln	Ser	
				260					265					270	
Gln	Val	Thr	Leu	Ala	Gly	Tyr	Gly	Phe	Ala	Phe	Arg	Tyr	Cys	Pro	
				275					280					285	
Ser	Gly	Lys	His	Val	Ala	Tyr	Val	Glu	Gly	Ser	Arg	Ser	Pro	His	
				290					295					300	
Glu	Gly	Asp	Leu	Glu	Phe	Ile	Ser	Met	Asp	Leu	His	Lys	Gly	Cys	
				305					310					315	
Gly	Pro	Ser	Arg	Arg	Ser	Asp	Leu	Gln	Ser	Leu	Gly	Tyr	Cys	Met	
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Leu	Lys	Trp	Leu	Tyr	Gly	Phe	Leu	Pro	Trp	Thr	Asn	Cys	Leu	Pro	
				335					340					345	
Asn	Thr	Glu	Asp	Ile	Met	Lys	Gln	Lys	Gln	Lys	Phe	Val	Asp	Lys	
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Pro	Gly	Pro	Phe	Val	Gly	Pro	Cys	Gly	His	Trp	Ile	Arg	Pro	Ser	
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Glu	Thr	Leu	Gln	Lys	Tyr	Leu	Lys	Val	Val	Met	Ala	Leu	Thr	Tyr	
				380					385					390	
Glu	Glu	Lys	Pro	Pro	Tyr	Ala	Met	Leu	Arg	Asn	Asn	Leu	Glu	Ala	
				395					400					405	
Leu	Leu	Gln	Asp	Leu	Arg	Val	Ser	Pro	Tyr	Asp	Pro	Ile	Gly	Leu	
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Pro	Met	Val	Pro												

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PF-0614 US

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35 40 45
Leu Pro Ala His Pro Ser Glu Leu Pro Ile Pro Gln Arg Leu Gly
50 55 60
Gly Pro Ala Pro Lys Ala His Pro Gly Pro Pro His Ile His Asp
65 70 75
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80 85 90
Leu Ile Arg Pro Phe Ile Leu Glu Gly
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Glu Thr Gly Ile Lys Ser Lys Glu Ala Arg Lys Tyr Ile Phe Asn
35 40 45
Cys Leu Asp Ala Cys Val Gln Val Asn Met Thr Thr Asp Leu Glu
50 55 60
Gly Ser Asp Met Leu Val Glu Lys Ala Asp Arg Arg Glu Phe Ile
65 70 75
Asp Leu Leu Lys Lys Met Leu Thr Ile Asp Ala Asp Lys Arg Ile
80 85 90
Thr Pro Ile Glu Thr Leu Asn His Pro Phe Val Thr Met Thr His
95 100 105
Leu Leu Asp Phe Pro His Ser Thr His Val Lys Ser Cys Phe Gln
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Asn Met Glu Ile Cys Lys Arg Arg Val Asn Met Tyr Asp Thr Val
125 130 135
Asn Gln Ser

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